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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,505	10/30/2003	Yasuo Takebe	61352-046	5764

7590 10/23/2006
MCDERMOTT, WILL & EMERY
600 13th Street, N.W.
Washington, DC 20005-3096

EXAMINER

ALEJANDRO, RAYMOND

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 10/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/696,505

Applicant(s)

TAKEBE ET AL.

Examiner

Raymond Alejandro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-106 is/are pending in the application.
- 4a) Of the above claim(s) 1-79 and 81-106 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 80 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/30/03, 03/18/04, 05/05/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Species 8 (claim 80) in the reply filed on 10/04/06 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Priority

2. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

Information Disclosure Statement

3. The information disclosure statements (IDS) submitted on 10/30/03, 03/18/04 and 05/05/05 were considered by the examiner.

Drawings

4. The drawings were received on 10/30/03. These drawings are acceptable.

Specification

5. The preliminary amendment filed 02/03/05 does not introduce new matter into the disclosure.

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6. The disclosure is objected to because of the following informalities: Brief Description of Drawings does not include a description for each figure of drawings 10A-F, 11A-F, 12A-F, 13A-F, 14A-F and 15A-F. Appropriate correction is required.

7. The abstract of the disclosure is objected to because it fails to sufficiently describe the subject matter of claim 80. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

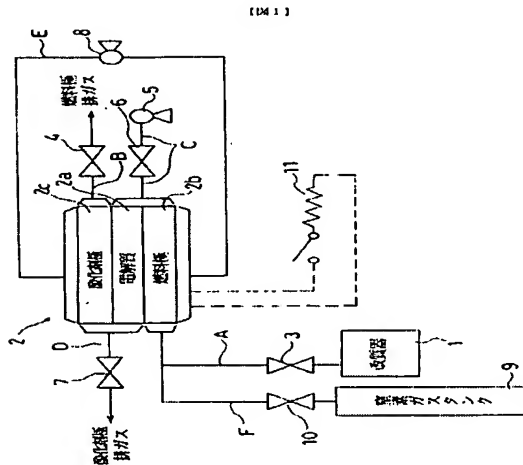
9. Claim 80 is rejected under 35 U.S.C. 102(b) as being anticipated by the Japanese publication JP 06-333586 (heretofore ‘the JP’586’).

The present claim is directed to a method of operating a fuel cell wherein the disclosed inventive concept comprises the specific voltage decrease of the cathode upon fuel cell operation is terminated.

The JP’586 illustrates a fuel cell system including a membrane electrode assembly sandwiched by separators having channels for feeding reactant gases (SEE FIGURE 1). The JP’586 further discloses a method for stopping fuel cell wherein when operation is stopped, the interruption with an external load is conducted, a reaction air supplying valve 6 is closed to stop the supply of a reaction air (ABSTRACT); immediately just after it, the switch of an internal load 11 is on; thus, the oxygen in the air left in an oxidizing agent electrode 2c is consumed, and

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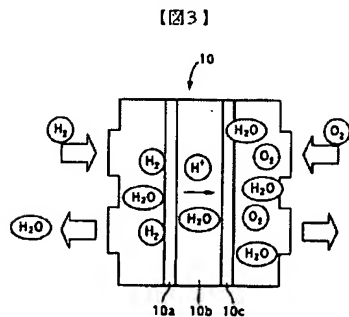
the voltage is lowered (ABSTRACT). Further disclosed is that reformer 1 is successively stopped, a hydrogen supplying valve 3 is closed, and a nitrogen supplying valve 10 is opened to stop the cell (ABSTRACT). *Consequently, the voltage of the electrode decreases upon termination of the fuel cell operation.*



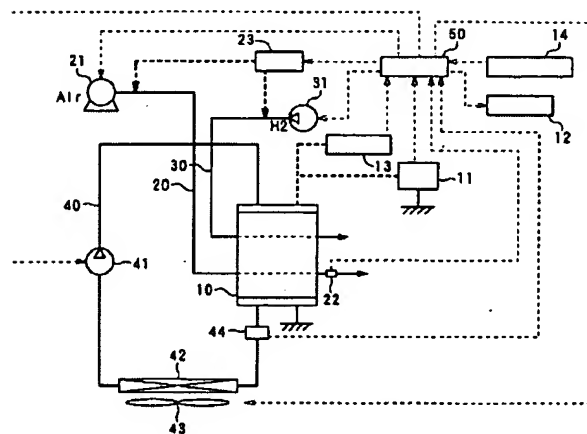
Therefore, the present claim is fully anticipated.

10. Claim 80 is rejected under 35 U.S.C. 102(b) as being anticipated by the Japanese publication JP 2002-208421 (heretofore 'the JP'421').

The JP'421 depicts a fuel cell system including an anode and a cathode and an electrolyte disposed therebetween; and separator plates configured to deliver reactant gases sandwiching the anode-electrolyte-cathode arrangement (See Figures 1 and 3).



【図1】



The JP'421 further discloses that the fuel cell system can eliminate moisture inside the fuel cell after its operation is stopped in a fuel cell system used under a low temperature condition (ABSTRACT). Essentially, it makes known a method of operating a fuel cell wherein after a normal operation of a fuel cell 10 is stopped, dry oxygen is supplied to an oxygen electrode of the fuel cell 10 and dry hydrogen to a hydrogen electrode. Each output voltage of a plurality of cells structuring the fuel cell 10 is detected by a cell monitor 13, based on which, wet condition inside the fuel cell 10 is detected indirectly then at least dry hydrogen supply is controlled according to the wet condition inside the fuel cell 10. After the supply of the dry hydrogen is stopped, dry air heated higher than the temperature inside the fuel cell 10 is supplied to the oxygen electrode (ABSTRACT). *The specific step of further supplying dry oxygen to an oxygen electrode of the fuel cell once operation thereof has ceased causes the oxygen electrode (cathode) to decrease its voltage, thereby, making it to restore.*

As a result, the present claim is fully anticipated.

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11. Claim 80 is rejected under 35 U.S.C. 102(b) as being anticipated by Dine et al 2002/0098393.

Dine et al disclose a procedure for shutting down an operating fuel cell system that recirculates a portion of the anode exhaust in a recycle loop, such a procedure includes disconnecting the primary load from the external circuit, stopping the flow of air to the cathode, and applying an auxiliary resistive load across the cells to reduce and/or limit the cell voltage and reduce the cathode potential while the fuel is still flowing to the anode and the anode exhaust is recirculating (ABSTRACT/ P0035-0037/ CLAIMS 1 & 7).

Fuel cell system of Dine et al comprises a fuel cell 102 comprising an anode 104, a cathode 106, and an electrolyte layer 108 disposed between the anode and cathode (P0027); and a cathode flow field plate 120 and an anode flow field plate 118 for carrying respective reactants (oxidant/air and hydrogen-containing fuel (P0027-0028).

Accordingly, the present claim is fully anticipated.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond Alejandro whose telephone number is (571) 272-1282. The examiner can normally be reached on Monday-Thursday (8:00 am - 6:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Raymond Alejandro
Primary Examiner
Art Unit 1745


**RAYMOND ALEJANDRO
PRIMARY EXAMINER**